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DESCRIPTIONS OF MALES OF TWO SPECIES OF *DICHOMERIS* (LEPIDOPTERA: GELECHIIDAE)  
SPECIES WITH NEW DISTRIBUTIONAL RECORDS IN MISSISSIPPI AND ALABAMA

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**ABSTRACT.** The male genitalia of *Dichomeris illusio* Hodges and *D. mimesis* Hodges are described and illustrated. New distribution records for these species are provided.

**Additional key words:** genitalia, illustration, *Dichomeris illusio*, *Dichomeris mimesis*, Dichomerinae, Black Belt Prairie

*Dichomeris* Hübner, one of the largest genera of Gelechiidae in the world, includes 74 species in America north of Mexico (Hodges 1986). The genus includes 58 species that have been recorded from states and provinces east of the Great Plains; of them, 22 species have ranges extending into the Great Plains and the southwestern United States (Hodges 1986). According to Hodges (1986), only 12 species are known from the southwestern United States. During recent years 39 species of *Dichomeris* have been collected in Alabama and Mississippi, and specimens are deposited in the Mississippi Entomological Museum.

*Dichomeris* is characterized anatomically by the abdominal segment II having a pair of venulae with anterior apodemes not developed, the forewing having  $CuA_1$  and  $CuA_2$  usually stalked, but sometimes connate, male genitalia with a juxta, and female genitalia with a secondary bursa arising from the corpus bursae (Hodges 1986). Based on anatomical variation in these and other characters, Hodges divided the genus into 19 species groups, of which the *setosella* group was the largest with 40 species.

Hosts in 38 plant families have been recorded for more than 100 species of the genus worldwide (Robinson *et al.* 2002). Asteraceae and Fabaceae are the most commonly used hosts. Most of the species feeding on Asteraceae have a Nearctic distribution and belong to the *D. setosella* species group. Most of the species feeding on Fabaceae occur in the Nearctic, Oriental, and Palaearctic Regions. Species of Euphorbiaceae and Sterculiaceae are major hosts of *Dichomeris* in the Oriental Region (Robinson *et al.* 2002).

Hodges (1986) described 40 species of *Dichomeris*, of which seven were known only from females. *Dichomeris illusio* Hodges and *D. mimesis* Hodges were described from two females of each that were collected

in Florida and Texas, respectively, and both were included in the *D. setosella* group (Hodges 1986).

The description of the males of *D. illusio* and *D. mimesis* and new distribution records of these species are based on material in the Mississippi Entomological Museum at Mississippi State University. Photographs of the imago and female genitalia of these species may be found in Hodges (1986) and at the following website: <http://www.msstate.edu/org/mississippientomuseum/Researchpages/Gelechiidaehome.html>

***Dichomeris illusio* Hodges**

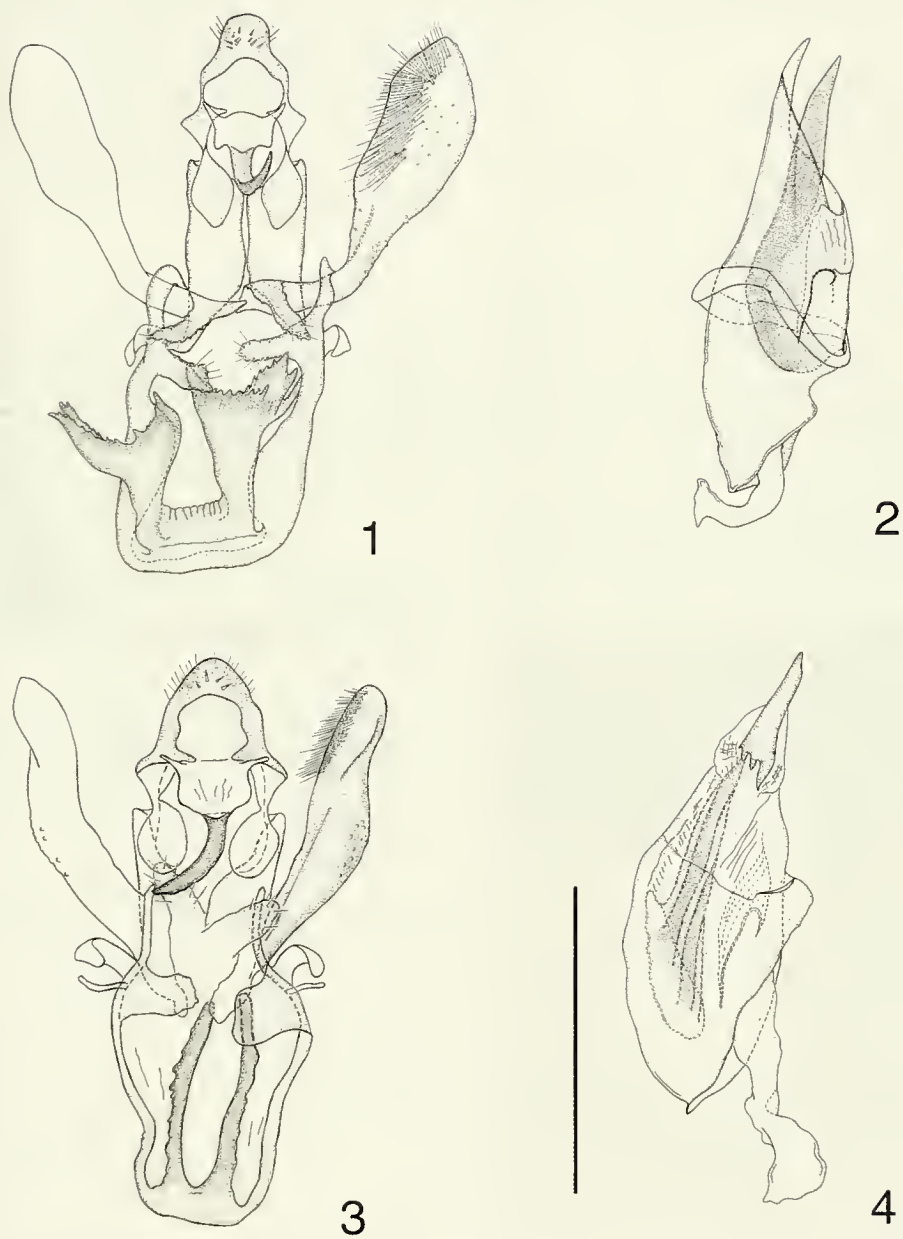
(Figs. 1 and 2)

**Thorax:** Forewing pattern similar to female; male without scale tuft on anepisternum.

**Male genitalia:** Valva approximately  $1.1\times$  length of tegumen + uncus, abruptly widened near midlength, apical third densely setose on dorsal half; vinculum subequal in length to tegumen + uncus, with a pair of medially projecting lobes arising from near base, lobes sparsely setose apically, saccal region sclerotized and broadly rounded (almost quadrate) ventrally; lobes of juxta arising from common base, broadly bifid, dentate, and sparsely setose apically; aedeagus free from juxta, lateral areas without sclerotized lobes, moderately sclerotized, with more heavily sclerotized plate ventromedially, cornutus broad basally; gnathos with relatively short hook; uncus with apical margin rounded, lateral margins slightly excavated beyond base, dorsal surface with sparse, slender setae, ventral surface with sparse setae, that are stout basally and taper to acute apices.

**Material examined:** Alabama: Baldwin Co., Bon Secour National Wildlife Refuge, 30°15'09"N 87°45'50"W, 13–15 June 1994, D.M. Pollock (1♂). New state record. Mississippi: Oktibbeha Co., Dorman Lake, 28 June 1984, R.L. Brown (1♂); Winston Co., Noxubee National Wildlife Refuge, T16N R14E Sec 13SE, 14 June 1992, T.L. Schiefer (3♀). New state record.

**Notes:** Hodges (1986) distinguished *D. illusio* from the superficially similar *D. bolize* Hodges by the distinctive female genitalia. The male genitalia of *D. illusio* differ from those of *D. bolize* and other *Dichomeris* species in having juxtal lobes with bifid and dentate apices. The valvae of *D. illusio* differ from those of *D. bolize* and related species in being abruptly widened near midlength. The characters of the male



FIGS. 1-4. Male genitalia of *Dichomeris* species. Scale bar: 1 mm. 1, *D. illusio*, ventral view, MEM genitalia slide 1005. 2, *D. illusio* aedeagus, lateral view. 3, *D. mimesis*, ventral view, MEM genitalia slide 1006. 4, *D. mimesis* aedeagus, lateral view.

genitalia of *D. illusio* confirm its previous placement by Hodges (1986) in the *D. setosella* group and include the following: vinculum sclerotized in saccal region; aedeagus free, with strong cornutus; uncus well developed, and posterior margin rounded or slightly angled distolaterally.

### *Dichomeris mimesis* Hodges

(Figs. 3 and 4)

**Thorax:** Forewing pattern similar to female; male without scale tuft on anepisternum.

**Male genitalia:** Valva approximately 1.1× length of tegumen + uncus, slightly narrowed apically, apical one-fourth of inner surface densely setose; vinculum subequal in length to tegumen + uncus, sinuous ventrally, with a pair of medially projecting, wide lobes arising from near base, lobes moderately setose apically, saccal region sclerotized and slightly rounded; lobes of juxta connected basally on ventral margin of saccus, almost symmetrical, irregularly dentate laterally; aedeagus free from juxta, lateral areas without sclerotized lobes, with more heavily sclerotized plate ventromedially, apex with sclerotized, tapered plate on lateral surface, cornutus broad basally; uncus with apical margin rounded, setae on dorsal surface sparse, slender, setae on ventral surface stout basally, narrowed and tapered near their midlengths.

**Material examined:** Mississippi: Lowndes Co., T17N R16E Sec 5, 11 March 1991, D.M. Pollock (1♂); Lowndes Co., T17N R16E Sec 34, Black Belt Prairie, 20 May 1992, R.L. Brown (1♂); Oktibbeha Co., T19N R5E Sec 16, 2S May 1990, D.M. Pollock (1♀). New state record.

**Notes:** All specimens of this species were collected in remnants of the Black Belt Prairie, where several species of insects are disjunct from western states (Brown 2003). The forewing pattern of *D. mimesis* is similar to that of *D. bolize* Hodges, *D. illusio* Hodges, *D. legnotoa* Hodges, and *D. pelta* Hodges. Hodges (1986) stated that "it is possible that the combination of the dark costal margin of the forewing and the shape of the posterior margin of the yellow of the forewing is diagnostic for *mimesis*, but too few specimens are known to be certain." The additional specimens from

Mississippi and Alabama have a dark costal margin and two notches on the posterior margin of the yellow band of the forewing, not three as indicated in the key of Hodges (1986); however, this notched margin is much more irregular on the distal half than that in related species as indicated in Hodges' key. The male genitalia of *D. mimesis* differ from superficially similar species by the more narrowly rounded uncus, as compared to the broadly rounded uncus in related species, and by the form of the aedeagus and its sclerotized plate at the apex. The characters of the male genitalia of *D. mimesis* confirm its previous placement in the *setosella* group.

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